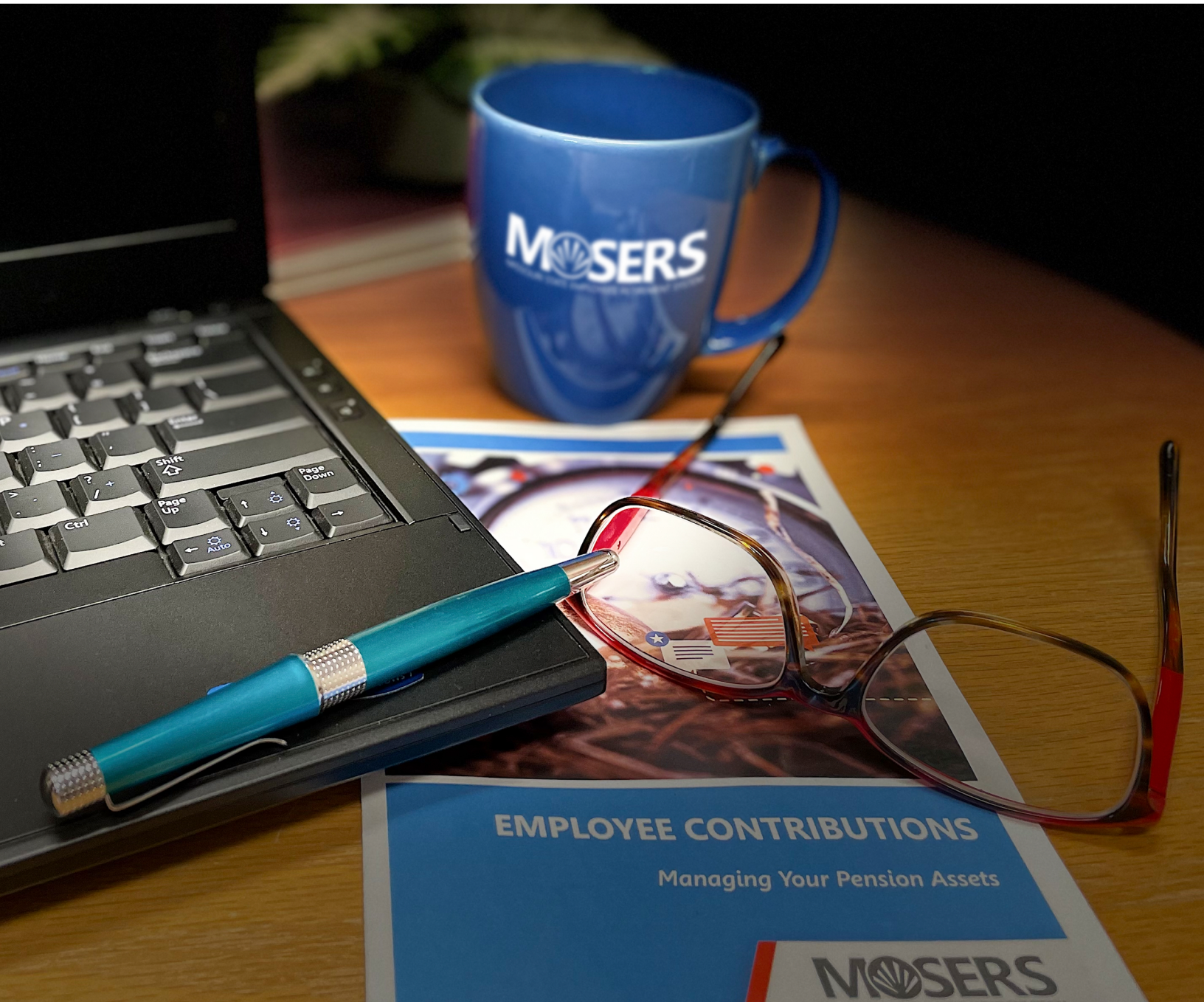


INVESTMENT POLICY STATEMENT

Effective as of May 30, 2024





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Introduction

Missouri State Employees' Retirement System ("MOSERS" or the "System") is an instrumentality of the State of Missouri vested with the powers and duties specified in state law providing retirement, long-term disability, and life insurance benefits to its members, including most state employees, members of the Missouri General Assembly, elected state officials, judges, administrative law judges, and legal advisors. MOSERS is responsible for managing a portfolio of investments held in trust for the payment of member benefits (the "Defined Benefit Plan" or "Plan").¹ MOSERS also administers two defined contribution plans, the State of Missouri Deferred Compensation Plan (the "Defined Contribution Plan")² for state employees and retirees, and the College and University Retirement Plan ("CURP")³ for higher education faculty employees (the Deferred Contribution Plan and CURP are collectively referred to as the "DC Plans").

I. Investment Policy Statement Purpose

- A. This *Investment Policy Statement* ("IPS") sets forth the investment policies by which the System's assets will be managed. Its purpose is to provide a framework for the MOSERS Board of Trustees ("Board"), staff, and investment consultants to fulfill their objectives with respect to the Plan's and DC Plans' investments.
- B. This IPS is intended to be read in harmony with the applicable Revised Statutes of Missouri ("RSMo."), and to be binding on all persons with discretionary authority and control over MOSERS' investments. Unless specifically authorized in the IPS, deviation from the IPS is not permitted without explicit written permission, in advance, from the Board.
- C. This IPS also is intended to be read in harmony with the MOSERS *Governance Manual* and *Board Rules*.

II. Mission and Vision Statements

To guide MOSERS, the Board has established the following mission and vision statements:

MOSERS Mission Statement

MOSERS exists to advance the financial security of its members.

¹ Chapters 104, 105, 287, and 476, RSMo.

² Sections 105.900 to 105.927, RSMo.

³ Sections 104.1200 to 104.1215, RSMo.

MOSERS Vision Statement

We endeavor to:

- Exceed customer expectations
- Educate stakeholders
- Ensure sound investment practices
- Encourage responsible funding of the Plan through a commitment to *Excellence Always*

These Mission and Vision Statements shall guide the investment and management of MOSERS' assets.

III. Standard of Care and Conduct

A. Applicable Standard of Prudence

All participants in the investment process, including members of the Board, the staff, investment consultants, investment managers, and service providers, are expected to discharge their duties in the interest of the participants of the System, and shall act with the same care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with those matters would use in the conduct of a similar enterprise and with similar aims.⁴

Investment and management decisions concerning individual assets will be evaluated not in isolation but in the context of the investment portfolio as a whole and as a part of an overall Board-approved investment strategy having risk and return objectives appropriate to the System.⁵

B. Standard of Conduct; Prohibition of Conflicts of Interest

All participants involved in the investment process will refrain from any activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial recommendations and decisions. Each such participant is required to disclose to MOSERS, in writing, any relationship that could create or appear to create a conflict of interest in the participant's unbiased involvement in the investment process. When appropriate, the participant shall cure the conflict in a manner provided by MOSERS' *Standards of Ethics and Professional Conduct Policy* or participant's contract with MOSERS, as applicable.

IV. Investment Objectives and Philosophy

The purpose of MOSERS' investment program is to ensure that MOSERS' members and beneficiaries receive their benefits at a reasonable and predictable cost to the employers. Plan assets may be invested, reinvested, and managed by MOSERS Investment staff or third-party

⁴ Section 105.688(1), RSMo.

⁵ Section 105.688(4), RSMo.

investment managers, subject to the terms, conditions, and limitations provided by law,⁶ policy, and contract, where applicable. Specific investment objectives and investment philosophies that shall guide efforts to achieve the purpose are as follows:

A. Investment Objectives

1. Develop a Real Return Objective⁷ (“RRO”) intended to keep contribution rates at a reasonable level over long periods of time absent changes in actuarial assumptions.⁸
2. Establish an asset allocation policy that is expected to meet the RRO while minimizing the impact of the Plan investments’ volatility on the contribution rate.
3. Maximize long-term investment returns by exposing Plan assets to a prudent level of risk in order to support the goal of having sufficient funds available to meet projected benefit payment obligations.
4. Monitor costs associated with the efficient implementation of the asset allocation policy through the use of internal and external resources.

B. MOSERS Board Investment Philosophy

1. A key risk to the Plan is asset shortfall where assets are insufficient to meet promised benefit obligations. As a result, the Board will strive to minimize the potential for long-term impact from disproportionate drawdowns.
2. MOSERS is willing to take measured risks for which it expects to be compensated and will seek to avoid risks which may not be appropriately rewarded.
3. The Board will employ a disciplined, objective, and quantitatively driven asset/liability analysis process, with the goal of determining the optimal asset allocation policy to meet the investment objectives.
4. In order to meet the RRO, it is necessary for the Plan to maintain a significant allocation to growth (i.e., equity) assets. As a result, equity risk is expected to be the key contributor to the overall risk of the Plan’s investments (“Total Fund”). In recognition of this, the Board’s asset allocation policy will seek to mitigate the risk from large equity market declines.
5. Strategic asset allocation is a significant factor influencing long-term investment performance and asset volatility. The asset allocation targets, determined by the Board, will be adhered to through clearly defined rebalancing guidelines.

⁶ Sections 104.440, 104.500, 104.550 and 104.1069; and Sections 105.687 to 105.690, RSMo.

⁷ The Real Return Objective is the rate by which the total return exceeds the inflation rate as measured by the Consumer Price Index, U.S. City Average for All Urban Consumers (CPI-U).

⁸ Sections 104.436.1 and 104.1066.1, RSMo.

6. The Board will seek to cause the Total Fund to be broadly diversified in view of the fact that not all strategies will add value at all times, which should mitigate the impact of negative market environments over the Plan's long-term investment horizon.
7. Risk management and performance benchmarking are integral to the investment program. The Board will establish and regularly monitor appropriate absolute and relative return risk, as well as other key risks that affect the Total Fund.
8. The Board recognizes the importance of benchmarking for monitoring how well investment decisions are fulfilling the Plan's objectives and will employ industry-accepted benchmarks for all asset classes for which the Board sets policy, using published market indices where feasible. A separate Benchmarking Philosophy is articulated in Section XI.
9. Costs meaningfully impact investment returns and will be a consideration in all investment program decisions. Investment performance shall be reported net of fees to incorporate the full impact of fees and costs.

V. Roles and Responsibilities

A. Board of Trustees

The Board is responsible for the prudent oversight, governance, and management of the System's assets. The Board's responsibilities include the following:

1. Establishing investment objectives consistent with the Plan's funding needs;
2. Selecting and approving the RRO;
3. Establishing, approving, and updating written investment policies, including this IPS, consistent with identified objectives and applicable law;
4. Setting and approving an asset allocation strategy, including:
 - a. Asset allocation rebalancing guidelines;
 - b. Active risk reasonableness range, as set forth in Section IX;
 - c. Total Fund policy-level financial leverage;
 - d. Total Fund and asset class benchmarks; and
 - e. Total Fund and asset class performance and risk monitoring.
5. Ensuring that an asset/liability study is conducted at least every five years;
6. Overseeing the DC Plans, including the investment structure;
7. Selecting, evaluating, and terminating the investment consultants who advise the Board; and
8. Monitoring the investment program for prudent cost management.

B. Board Investment Committee

The Investment Committee will perform the duties and responsibilities outlined in the Investment Committee Charter, as then in effect.

C. Staff

Pursuant to its authority to delegate functions to employees of the System under Section 104.1069, RSMo., the Board delegates to the Executive Director the responsibility to manage the staff that oversees and executes MOSERS' investment program. In addition to other requirements, the Board expects the System's staff and external consultants to adhere to the following guidelines related to the investment program.

General Provisions

1. The Executive Director is responsible for monitoring investment program compliance with the IPS.
2. Upon learning of any breach of this IPS, the Executive Director will notify the General Counsel promptly, but in any event within three business days.
3. The Executive Director will select, evaluate, and terminate the CIO, except that (a) the Executive Director will consult, as appropriate, with the Board regarding selection and evaluation of the CIO; and (b) the Board must approve the Executive Director's proposed termination of the CIO.
4. Staff will report in an accurate, transparent, and timely manner.
5. Staff will engage a third-party cost benchmarking consultant to annually report on its analysis of MOSERS' cost profile compared to peers on a net-of-cost, risk-adjusted, and value-added basis.

Specific Requirements

6. The CIO will be responsible for:
 - a. Developing the overall implementation strategy for the System's investment program consistent with the asset allocation and other policies adopted by the Board; and
 - b. Selecting individual strategy benchmarks, in addition to the Board-approved benchmarks, to assess performance of the various categories of the System's investments.
7. The CIO will be responsible for developing and executing the System's investment implementation strategies and maintaining a detailed investment implementation manual.

8. The CIO will be responsible for monitoring the performance of, and ensuring appropriate due diligence is completed on, all external investment managers and the investments they manage for MOSERS. This process will include but is not limited to:
 - a. Holding due diligence meetings between staff and external investment managers, at least quarterly, via phone, video conference, or in person to discuss portfolio, market, or other manager-specific topics;
 - b. Completing an annual comprehensive due diligence written report;
 - c. Completing a written executive summary of the annual due diligence report for each investment with an investment manager following the due diligence report's completion;
 - d. Monitoring for compliance with applicable Board policy and the investment implementation manual;
 - e. For investment accounts where there is less than \$10 million in remaining MOSERS assets and the account is in distribution or MOSERS has requested full redemption, only annual due diligence meetings shall be required, and no due diligence report is required.
9. The CIO will develop and oversee the execution of strategies with respect to Total Fund-level financial leverage.
10. In the event the CIO engages a staff investment consultant ("SIC") or the master custodian, the CIO shall:
 - a. Follow a process that is based on a competitive Request for Proposal (RFP) with established selection criteria unless under the circumstances it is not prudent to do so, in which case the exception must be agreed to by the Executive Director;
 - b. Document the proposed action by describing the decision-making process, expectations, and rationale for the decision; and
 - c. Obtain the Executive Director's certification that the proposed engagement complies with the IPS.
11. In the event the CIO engages an external investment manager or allocates to an investment managed by an existing external investment manager, the CIO shall:
 - a. Use a process, with established selection criteria, to choose from a set of investments and investment managers, as determined by the CIO;
 - b. Document the proposed action by describing the CIO's decision-making process, expectations, and rationale for the decision;
 - c. Confirm that the appropriate SIC agrees to the engagement or allocation in writing; and

- d. Obtain the Executive Director's certification that the proposed engagement or allocation complies with the IPS. No such certification shall be required for a co-investment with an existing external investment manager who was initially engaged in accordance with a. through d. of this paragraph, provided the co-investment complies with the investment implementation manual.
- 12. In the event the CIO proposes to terminate a SIC or master custodian described in paragraph 10, the CIO shall obtain the Executive Director's certification that the proposed termination complies with the applicable contract.
- 13. In the event the CIO proposes to terminate an external investment manager described in paragraph 11, the CIO shall:
 - a. Confirm that the appropriate SIC agrees to the termination in writing; and
 - b. Obtain the Executive Director's certification that the proposed termination complies with the IPS. No such certification shall be required for a proposed termination of a co-investment made in accordance with paragraph 11.
- 14. The CIO will be responsible for selecting the investment structure for participants of the DC Plans designed to allow participants to build a diversified investment portfolio at a competitive cost. In doing so:
 - a. The appropriate SIC must agree to the structure in writing; and
 - b. The Executive Director must certify that the proposed structure complies with the IPS.
- 15. The CIO will be responsible for selection, evaluation, and termination of the third-party plan administrators for the DC Plans under the same procedures applicable to other service providers.
- 16. The CIO will be responsible for negotiation of the fees and costs of all service providers and external investment managers to ensure that they are appropriate and reasonable in relation to the System's assets, the purpose of the engagement, and the complexity or skill required.
- 17. The CIO will be responsible for monitoring the performance of all external service providers for the DC Plan, including holding annual due diligence meetings and completing an annual comprehensive due diligence report and certification that all due diligence requirements in this IPS have been met.
- 18. The CIO will establish a program to implement the Board's Proxy Voting Policy.
- 19. The CIO will establish a securities lending policy, if and when utilizing securities lending agreements, including with respect to prudent investment of collateral, which ensures that the interests of the System are adequately protected.

20. The CIO will designate a staff member (the “Risk Manager”) to oversee the risk monitoring function for the System, including implementing, managing, and monitoring adequate risk management measures and maintaining risk reporting for staff and Board use. The Risk Manager will provide a report directly to the Board on such matters.

D. External Providers

1. Board Investment Consultant (“BIC”)

The BIC’s primary responsibility is to provide the Board independent and objective investment advice and assist the Board in making informed decisions and overseeing the investment program. The BIC has the following responsibilities:

- a. Assist the Board in investment policy development;
- b. Assist the Board in exercising effective oversight of the investment program;
- c. Advise and recommend asset allocation policy to the Board via an asset/liability analysis process;
- d. Conduct an annual asset allocation review to ensure consistency with the RRO and other stated objectives;
- e. Oversight of the internally managed portfolios, including performing an annual due diligence meeting and reporting the result to the Board;
- f. Produce an annual report letter;
- g. Provide the Board with updates and training designed to enhance Board members’ knowledge of investment practices and emerging trends;
- h. Perform special or ad hoc projects as requested by the Board; and
- i. Promptly advise the Board and the Executive Director about any material deviation from prudence, guideline adherence, objectivity, or any other matter of concern observed by the BIC involving staff or another service provider to MOSERS.

2. Staff Investment Consultant (“SIC”)

A SIC’s primary responsibility is to provide independent and objective investment advice to the staff. Among other duties, as applicable, each SIC will agree in writing to the CIO’s proposed engagement or termination of external investment managers and third-party plan administrators.

3. External Investment Managers, including Securities Lending Agents

Among other specific duties, external investment managers will manage System assets in compliance with account guidelines and any applicable provisions of this IPS.

4. Proxy Voting Advisor

To assist the System in the continued execution of its fiduciary duties, in connection with exercising the voting rights of the investments directly held by the System, the System shall retain a proxy voting advisor and utilize the Board-approved proxy policy (the “Proxy Voting Policy”) no later than January 1, 2023.

- a. In voting MOSERS’ shares, the proxy voting advisor shall consider only those factors that relate to the economic value of the System’s investments, such that MOSERS’ votes are cast in the best economic interest of the members of the System. For avoidance of doubt, voting of MOSERS’ shares, including on proposals regarding social, governance, or environmental proposals and on election of board of directors, will be based solely on enhancing or protecting long-term economic value, and not on establishing or endorsing social policy.
- b. In addition to investments directly held by MOSERS, MOSERS invests in securities indirectly through pooled investment funds where external investment managers possess the voting rights with respect to investments of the fund and vote in the best interest of the pooled funds. In those circumstances, the System shall request the external investment managers to exercise voting rights in accordance with the Proxy Voting Policy.

VI. Asset Allocation Policy

The Board recognizes that the most important determinant of long-term return and risk is the asset allocation decision. The Strategic Target Allocation is designed to provide the highest probability of meeting or exceeding the Plan’s investment objectives at a controlled level of risk and with liquidity that is acceptable to the Board.

A. General Guidelines

In setting the Strategic Target Allocation, the Board will consider the System’s ability to withstand not only the long-term risk of underperforming its RRO, but also short- and intermediate-term volatility in investment performance and fluctuations in the financial condition of the Plan.

1. The Board will evaluate the Strategic Target Allocation at least every five years.
2. The risk assumptions regarding capital markets models used by the Board in setting the Strategic Target Allocation and Active Risk Range should be internally consistent with the Board’s overall investment risk philosophy and risk analytics used for monitoring portfolio risk.

B. Process

1. The Board will determine the Strategic Target Allocation through an asset/liability review process (“A/L Study”). An A/L Study will be undertaken at least every five years. The purpose of an A/L Study is to evaluate the current asset allocation policy in light of changes in capital market expectations and the Plan’s liabilities, in order to determine whether the current asset allocation policy remains optimal.
2. The BIC will advise the Board with respect to the A/L Study, with input from the CIO. The BIC will work with MOSERS’ actuary to incorporate the Plan’s liabilities into the BIC’s asset allocation models. These models utilize various tools, including mean variance analysis and Monte Carlo simulations per industry practice for asset allocation analysis. The BIC will also engage in analytical techniques, such as stress tests and scenario analyses for the current policy and potential policy alternative portfolios, to evaluate how the financial condition of the Plan may be affected by changes in assumptions about future capital market conditions.
3. The BIC is expected to present to the Board asset allocation alternatives, including a recommended Strategic Target Allocation.

C. Strategic Target Allocation

Effective July 1, 2024,* the Strategic Target Allocation and acceptable ranges as determined by the Board are reflected in Figure 1.

FIGURE 1. BOARD-APPROVED STRATEGIC TARGET ALLOCATION AND ACCEPTABLE RANGES (AS OF JULY 1, 2024)*

Asset Class	Board-Approved Policy Allocation	Minimum	Maximum
Global Public Equities	40%	30%	50%
Global Private Equities	15%	10%	20%
U.S. Treasuries	20%	15%	25%
Private Credit	10%	5%	15%
Private Real Estate	5%	0%	10%
Private Real Assets	5%	0%	10%
Alternative Beta	15%	10%	20%
Cash	0%	0%	2%
Total Fund	110%	100%	120%

* Figure 1 depicts the Strategic Target Allocation adopted by the Board on February 16, 2024, and Acceptable Ranges adopted by the Board on May 30, 2024. Staff shall implement both effective July 1, 2024, pursuant to a Board-approved transition plan.

VII. General Investment Guidelines

The following guidelines apply to the Total Fund. Individual portfolio guidelines will be set forth in the investment implementation manual.

- A. Portfolios may utilize cash instruments or derivatives in their investment strategy. All investments used will be subjected to MOSERS' risk monitoring processes.
- B. No single investment product may comprise more than 5% of the Total Fund market exposure or provide more than a 10% contribution to Total Fund risk, whichever is lower. An exception is for passively managed index products where there is no limitation.
- C. Total assets held at a single investment firm (other than the custodian bank) may not comprise more than 20% of the Total Fund market exposure. An exception is for passively managed assets held at a single investment firm where there is no limitation.
- D. Effective March 3, 2022, the System shall not:
 - 1. Invest directly in securities issued by the Russian government, Russian-government affiliated entities, or Russian domiciled entities; or
 - 2. Engage external investment managers who have discretion to direct the System's assets into investments in the Russian government, Russian-government affiliated entities, or Russian domiciled entities.
 - 3. Existing investments subject to this provision, shall be divested at the earliest prudent opportunity.
- E. Effective December 12, 2023:
 - 1. The System shall divest from all of its Global Public Equity investments in China within 12 months, or on or before December 11, 2024; except that staff may exceed the 12-month deadline for a total period of within 36 months, or on or before December 11, 2026:
 - a. To avoid incurring aggregate transaction costs in excess of \$500,000;
 - b. To avoid selling Global Public Equity interests at a loss on secondary markets; or
 - c. To otherwise comply with legal requirements.
 - 2. The System may not exceed 36 months for such divestment without Board approval.
 - 3. Staff are required to notify the Board prior to divesting any commingled fund for which divestment is necessitated and would result in a realized loss. If, within two business days, four Trustees object, staff shall take no further action until after a special or regular meeting of the Board.

4. Staff shall not make any new or additional Global Public Equity investments in China. The Emerging Markets portfolio shall be constructed ex China, and Taiwan shall be excluded from the definition of China.
5. These requirements do not apply to monthly rebalancing, which is undertaken in order to keep the portfolio at the Board's target allocations and reported to the Board quarterly.

VIII. Rebalancing Policy

The Board will employ rebalancing range limits for each strategy type in which the Plan invests. The maximum and minimum exposures defining the current rebalancing ranges are provided in Figure 1. The CIO will develop a written plan for all rebalancing (mandatory or discretionary) which will detail the specific dollar amounts to be moved and the reason for the rebalancing. All rebalancing activity will be reported to the Board by the CIO, in arrears, on a quarterly basis.

A. Mandatory Rebalancing

1. Rebalancing must occur immediately whenever an individual range limit is exceeded for an asset class. The CIO will be responsible for managing the Plan to avoid exceeding a limit and monitoring compliance with the individual range limits on a daily basis, using MOSERS' best estimates of market values. The CIO shall not permit any asset class to exceed the applicable range limit under any circumstances, except for instances of extraordinary market volatility (i.e., price movement greater than two standard deviations from historical norm). Action taken to comply with this requirement is considered mandatory rebalancing.
2. When a mandatory rebalancing is required, assets will be rebalanced back toward the policy allocation target, so that the allocation is within an approved range, based upon a written timeline and rebalancing plan developed by the CIO. The CIO will report any required rebalancing to the Executive Director promptly, but in any event within three business days of when the rebalancing obligation is triggered.
3. An exception to the immediacy requirement in mandatory rebalancing exists for private-market or other liquidity-constrained assets. In the case of a private-market assets rebalancing, the CIO will develop a plan for orderly rebalancing in recognition of the fact that the Board does not wish to force illiquid asset purchases or sales which could unnecessarily reduce returns to the Plan. When a private-market asset rebalancing is required, the CIO will communicate the rebalancing plan to the Executive Director promptly, but in any event within three business days of when the rebalancing obligation is triggered. The Board acknowledges that private-market asset rebalancing could require an extended period of many months or even years before it is possible to prudently reach the policy allocation.

B. Discretionary Rebalancing

The CIO may engage in asset rebalancing to reduce or increase active risk or to minimize asset allocation drift from the policy. This is considered discretionary rebalancing. In these circumstances, it is not necessary to rebalance back to the policy target. As long as discretionary rebalancing does not result in breaching rebalancing range limits, the CIO may engage in discretionary rebalancing designed to enhance the management of the Plan's assets.

IX. Public Equity Active Risk Range

The Plan will employ a combination of passive and active strategies within the public equity component of the asset allocation. The Board has ultimate responsibility for how much either is utilized, because active risk impacts Total Fund returns and thus is strategic in nature. "Active risk" is the risk associated with the efforts of active strategies to add value above their respective benchmarks (i.e., manager excess returns), and includes deviations from benchmarks caused by imperfect tracking by passive investments as well as intentional deviations away from policy targets. Active risk is defined as the standard deviation of active returns. The public equity active risk range will reflect the risk beyond that associated with the policy allocation that the Board is willing to tolerate from active strategy implementation.

A. Process

1. A risk-budgeting process, based on advice by the BIC working with the CIO, will be employed to identify the public equity active risk range.
2. This process will be a bottom-up process, as opposed to the top-down process used to set the Asset Allocation Policy, as risk budgeting will take into consideration the individual public equity strategies being utilized for implementation of the Asset Allocation policy. As such, this process will occur after the Board sets the asset allocation.
3. The Board will approve an ex-post⁹ public equity active risk range.

B. Active Risk Range

The current public equity ex-post active risk range is between 0% to 3.5%.

C. Monitoring and Reporting

1. The Board will monitor actual public equity active risk compared to the public equity active risk range, over rolling three-year periods on a quarterly basis.
2. The Board understands that anomalous capital market volatility events can occur, which could cause the range to be exceeded; as a result and under those circumstances, exceptions to this policy are to be expected, although on an infrequent basis. Upon learning of any instance, including a market-driven exception, where the active risk

⁹ Ex-post risk is realized risk based on actual portfolio performance.

exceeds the upper end of the range, the CIO will promptly provide the Executive Director within three business days, a written explanation of the exception and any remedial action intended to bring the Plan back into compliance.

X. Monitoring and Reporting

The Board will regularly review investment performance and risk at the Total Fund level and at the asset class level. This review process will provide feedback to the Board as to whether the Total Fund is on track to meet investment objectives. While the Board will receive reports on a quarterly and annual basis, the Board's primary focus will be on longer term results (i.e., five- and ten-year periods). The Board recognizes that relatively short periods of anomalous results can skew the longer-term analysis on which the Plan should be managed.

Reported results will be attributed to various decisions using three categories as follows:

- Policy (Policy Benchmark Return) minus RRO plus actual inflation¹⁰);
- Allocation Effect ((Actual Weights times Policy Benchmark Return) minus (Policy Allocation Weights times Policy Benchmark Return)); and
- Selection Effect (Actual Weight times Actual Return minus Actual Weight times the Policy Return).

A. Quarterly Written Reports

1. The BIC's Summary Performance Report will provide performance analysis including analysis of the causes of outcomes observed and any key performance and risk drivers including the three categories identified in this section.
2. The CIO's Summary Performance Report will evaluate investment decisions comparing policy returns to actual returns.
3. The Risk Manager's Risk Report will address Total Fund risk management findings and initiatives, which includes detail on Total Fund exposure levels, cash levels, active risk, and various other risk statistics.

B. Annual Written Reports

1. The BIC's Asset Allocation Report will focus on asset allocation with an opinion as to the continued appropriateness of the Strategic Asset Allocation. This report will be supplanted by a formal A/L Study when performed.
2. The CIO's Positioning and Performance Report will discuss the Total Fund's strategic positioning and implementation changes made during the year, as well as fiscal year performance.

¹⁰ Actual inflation is measured as the annualized level of the CPI-U, non-seasonally adjusted.

C. Other Reports

Other routine reports to be provided to the Board are listed in Section XVII.

XI. Benchmarking Philosophy

A. Benchmarking Philosophy

The asset classes and benchmarks selected by the Board are intended to represent desired strategic exposure to various markets and should be reflective of those respective markets in terms of both return and risk. Benchmarks should be simple rather than complex. Benchmarks should be consistent with the proxies used in the asset allocation policy development process where possible. The preference is for benchmarks that have transparent construction and rebalancing methodologies and that are investable.

B. Benchmarking Goals

The overarching goal of MOSERS' benchmarks is to provide the Board an oversight tool to evaluate and understand the degree to which MOSERS' asset classes are successful in meeting policy objectives over both the short term (i.e., 3 or fewer years) and long term (i.e., 5 or more years). Benchmarks also provide insight into how capital markets are performing, in general, and assist the Board in understanding how individual asset classes contribute to overall Total Fund results. A secondary goal of benchmarks is to evaluate the relative skill of MOSERS' staff in their implementation decisions regarding strategy and manager selection. While asset allocation is expected to drive the majority (i.e., 90+%) of actual results at the Total Fund level, implementation is meaningful. By evaluating the Total Fund results versus the portfolio's benchmarks, the Board can measure the return attributable to the asset allocation selection (a Board decision) and asset allocation implementation (staff decisions) in meeting MOSERS' goals.

C. Benchmarking Framework

The Board will select benchmarks for each asset class that contributes to the Total Fund benchmark. Asset classes are defined by the Asset Allocation Policy; thus, the selected benchmarks should be reflective of the proxies used in the policy-setting process. Different approaches to benchmark selection will be required for public versus private markets; however, benchmarks for both should strive to be:

- Consistent with the asset class assumptions;
- Representative of the opportunity set;
- Investable, known, and set ex ante (before the fact);
- Transparent;
- Measurable; and
- Unambiguous.

1. Public Markets

Public market asset classes are relatively easy to benchmark as a myriad of well-publicized indices are available with characteristics that meet MOSERS' benchmark criteria, goals, and philosophy. For long-only, public market portfolio strategies, MOSERS will employ only published, widely recognized benchmarks which have been deemed to represent the investment return and risk characteristics of the relevant MOSERS mandate.

2. Private Markets

Benchmarks for illiquid asset classes tend to be customized as publicly available passive options do not exist. This is due to the variability of valuation practices (methodology and frequency) and the limited availability of reliable data.

D. Benchmark Review

Benchmarks should be reviewed at least every five years using both qualitative and quantitative information to evaluate their effectiveness in meeting MOSERS' stated investment goals. Benchmark changes may also be warranted due to changes in the underlying asset classes utilized.

XII. Performance Benchmarking

The Board approves performance benchmarks to facilitate periodic reporting and to provide a relative measure to gauge success. Effective July 1, 2024, the approved performance benchmarks for each asset class ("Policy Benchmarks") are reflected in Figure 2. The System maintains legacy policy benchmarks relative to the legacy asset allocation policy.

FIGURE 2. POLICY BENCHMARKS

Asset Class	Current Benchmarks*
Global Public Equities	MSCI All Country World Index ("ACWI") ex-China Index
Global Private Equities	Custom weighted blend of MSCI ACWI ex-China Index and State Street Private Equity Index ("SPEI")-Buyout weighted by Vintage Year and legacy Private Equities (benchmarked to itself)
U.S. Treasuries	Bloomberg 7-10 Year Treasury Index
Private Credit	Morningstar Loan Syndications and Trading Association ("LSTA") U.S. Leveraged Loan Index + 1% ("LSTA LL")
Private Real Estate	National Council of Real Estate Investment Fiduciaries ("NCREIF") Open End Diversified Core Equity ("ODCE") NCREIF ODCE Index
Private Real Assets	S&P Global Infrastructure Index
Alternative Beta	Hedge Fund Research, Inc. HFRX Macro/Commodity Trading Advisor ("CTA") Index
Total Fund	Fixed Policy-weighted blend of individual Asset Class Benchmarks

* Benchmarks are net of MOSERS' actual financing costs.

XIII. Investment Risk Management

The Board recognizes that to meet the Plan's RRO, the Plan must take risk to achieve sufficient returns. The Board expects an assessment of the Plan's investment risk using multiple metrics on both an absolute and relative basis at all relevant levels (i.e., Total Fund, asset class), including downside risk metrics identified through stress-testing and scenario analyses in the asset allocation setting process and on an ongoing basis.

Risks to be assessed include (but are not limited to):

1. Market risk: risk of drawdowns or swings in volatility;
2. Valuation risk: trending toward or reaching extremes (e.g., historically wide credit spreads), lack of pricing integrity;
3. Event risk: major unanticipated or unusual developments such as sovereign downgrade, Lehman bankruptcy, Asian currency crisis, etc.;
4. Liquidity risk: inability to quickly and cost-effectively raise funds to support leveraged and synthetic exposures, asset/liability mismatch;
5. Counterparty risk: risk of counterparty default or otherwise failing to meet its obligation to MOSERS; and
6. Operational risk: risk of failure in risk measurement/monitoring processes, systems, controls or personnel responsible for managing and/or monitoring risk exposures.

XIV. Anti-Terrorism and Sanctioned Entities

As part of its fiduciary duty to the Plan's participants, the Board must ensure that the Plan's assets are not used to finance illicit activities. To that end, this Anti-Terrorism and Sanctioned Entities section is intended to prevent the Plan's assets from being invested with entities identified by the U.S. federal government as (1) owned or controlled by, or acting for or on behalf of, sanctioned countries or (2) terrorists and narcotics traffickers designated under programs that are not country specific.

A. General Provisions

1. The CIO will implement documented risk-based due diligence procedures designed to prevent the Plan's assets from being directly or indirectly invested in a "sanctioned entity," defined as an entity that is:
 - a. designated by the U.S. Department of State as a (i) foreign terrorist organization or (ii) state sponsor of terrorism; or

- b. included on the Specially Designated Nationals and Blocked Persons List promulgated by the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC's SDN List").
- 2. If the CIO becomes aware that the Plan has directly or indirectly invested in a sanctioned entity, the CIO will take immediate steps consistent with prudent investment of the Plan's assets and with this section. Such steps could include, but are not limited to, discussing with an external investment manager how a fund can prudently divest from a sanctioned entity. The CIO will annually report to the Board any action taken under this provision in the past year.

XV. Personal Trading Policy

See the *Personal Trading Policy* in the MOSERS *Governance Manual*.

XVI. Pay-to-Play Policy

See the *Pay-to-Play Policy* in the MOSERS *Governance Manual*.

XVII. Routine Investment Program Reporting

The Board has ultimate responsibility for oversight of the activities and performance of MOSERS' investment program. Staff or external service providers will provide the Board with routine reports, according to the frequency specified.

Report Name	Frequency	Prepared By	Description and Purpose of Report
1. Summary Performance Report	Quarterly	External	Presents investment performance for the Total Fund, and for each asset class. Provides analysis based on return over various periods (3 months, 1 year, 3 years, 5 years, etc.).
2. Summary Performance Report	Quarterly	Staff	Presents detail on investment decisions with respect to policy, strategy, and implementation.
3. Risk Report	Quarterly	Risk Manager	Presents detail on Total Fund exposure levels, cash levels, active risk, and various other risk statistics.
4. Asset Allocation Report	Annually (except when supplanted by an Asset and Liability Study)	External	Provides an opinion as to the continued appropriateness of the Strategic Asset Allocation.
5. Positioning and Performance Report	Annually	Staff	Discusses the Total Fund's strategic positioning, implementation changes made during the year, and fiscal year performance.
6. Executive Summaries of Due Diligence Report	Annually	Staff	Provides a summary of the annual due diligence report on each external investment manager following completion.
7. Certification of Ongoing Due Diligence	Annually	CIO	Provides an annual certification that ongoing due diligence requirements of this IPS have been met.
8. Rebalancing Report	Quarterly	Staff	Presents a record, in arrears, of rebalancing transactions by the CIO.
9. Investment Fee/Cost Report	Quarterly	Staff	Presents the fees/costs of all investment management.
10. Investment Cost Effectiveness	Annually	Third-party provider selected by CIO	Evaluates the costs of the investment program and compares them to the appropriate peer group.
11. Anti-Terrorism and Sanctioned Entities	Annually	Staff	Summarizes any divestment actions taken by staff in compliance with the Anti-Terrorism and Sanctioned Entities section of this IPS.
12. DC Plans Due Diligence	Annually	Staff	Reports the results of due diligence meetings.
13. DC Plan Report	Annually	Staff	Provides an overview of investment options, service providers, fees, and educational efforts.
14. Asset and Liability Study	At least every 5 years	External	A study of the relationship between MOSERS' assets and liabilities to determine the appropriateness of MOSERS' Asset Allocation Policy.

XVIII. Policy Review and History

1. This IPS will be reviewed by the Board, at least annually, and either reaffirmed or amended as necessary.
2. The Board adopted this IPS on November 15, 2018. The Board approved changes to this IPS on June 19, 2019, November 19, 2020, June 17, 2021, November 18, 2021, June 16, 2022, November 17, 2022, and May 30, 2024.